

Remarks/Arguments

This is a complete response to the Office Action mailed 11 November 2006 in which claims 1-11 and 13 were finally rejected. Claim 12 has been canceled. Claims 1-11 and 13 are pending. Reconsideration and further examination of the subject application are respectfully requested.

Claim Rejections - 35 USC § 102

Claims 1, 3-7, and 9-11 were rejected under 35 U.S.C. 102(b) as being anticipated by Scheps US 5530711 (hereinafter '711). Applicant has amended claims 1, 7, and 13 to limit the scope of those claims to laser diode pumped solid-state dye lasers operating *only* in a non-steady-state mode. Support for this amendment may be found on page 4, lines 13-15 of the current application, where this limitation is inherent in the description of the range of values of the optical pulse width. Claim 1 is provided below as an example:

A laser, comprising:

a first optically reflective element;

a second optically reflective element opposed to and aligned with said first optically reflective element to define a laser cavity having an optical axis;

a laser dye gain element having a laser dye and which is interposed between said first and second optically reflective elements along said optical axis for transforming an optical pump signal into a resonant optical signal;

*a laser diode system for generating and injecting said optical pump signal into said laser cavity along said optical axis, where said optical pump signal is a sequence of optical pulses having a pulse width of about $n\tau_f$, where τ_f represents a fluorescence lifetime of said laser dye, and $3 \leq n \leq 25$ so that said laser diode system operates *only* in a non-steady-state mode.*

Applicant respectfully maintains that the limitation found in amended claim 1 that "said laser diode system operates only in a non-steady-state mode" is not disclosed in '711.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference... The identical invention must be shown in as complete detail as is contained in the ...claim. MPEP 2131

The Office Action maintains that column 19, lines 30-49 of '711 discloses a "laser diode system [that] operates in a non-steady-state mode." (Office Action page 3) Applicant respectfully disagrees. The section cited in the Office Action merely refers to a laser, which may operate in a pulsed mode or continuous wave mode. The Office Action also states, "diodes are operated in pulsed mode, which is non-steady-state." (Office Action page 3) Applicant respectfully maintains that *pulsed* operation of a diode laser is not equivalent to *non-steady-state* operation of a diode laser as claimed in claim 1. Only for the first few tens of nanoseconds after being turned on is a diode laser considered to be operating in non-steady-state mode. After the first 50-100 nanoseconds a diode laser operates in a quasi-continuous wave mode. A laser diode operating in non-steady-state mode "emits approximately 50 to 100 times the 'quasi-continuous' wave power." (Specification page 5, line 10) It would therefore be inaccurate to equate a general pulsed mode to the more specific non-steady-state mode. Nowhere does reference '711 disclose the limitation that the excitation laser diode operate in non-steady-state mode as defined in Applicant's specification and as understood by those skilled in the art.

The Office Action cites to col. 1, lines 56-59 of US patent 5307358 by Scheps (hereinafter '358) to support the position that "pulsed operation is considered non-steady-state." (Office Action page 4) The section cited states, "[G]enerally speaking, lasers...can be excited by either [steady-state] means, or by pulsed means." '358 col. 1, lines 54-56. However, the mere juxtaposition of the terms *pulsed* and *steady-state* does not lead to a conclusion that *pulsed* is equal to *non-steady-state*. As explained above, the term *non-steady-state*, is not equal to the broad term *pulsed*. The other two references cited in the Office Action, USGPUB 2002/0071645 and US 5982789, also do not disclose an excitation laser diode *operating* in a non-steady-state mode, as defined by the specification. Applicant respectfully requests withdrawal of the 102 rejection.

Claim Rejections – USC § 103

Claims 2 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over '711. Applicant maintains that because claims 2 and 8 are dependent on claim 1 that is novel and unobvious the obviousness rejection should be withdrawn. Applicant respectfully requests withdrawal of the 103 rejection.

Conclusion

Based on the reasons above, Applicant respectfully requests reconsideration and that a Notice of Allowance be issued as to claims 1-11 and 13. No fee is due for this response.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'J. Eric Anderson', written in a cursive style.

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